

30



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,794	02/08/2001	Hiroshi Isono	108482	3978

25944 7590 04/25/2003

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 04/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,794

Applicant(s)

ISONO ET AL.

Examiner

Melody M. Burch

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14 and 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,14 and 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because:
 - In figure 5 the words "Survo" in S32 and "Leake" in S29 and S30 should be changed;
 - In figures 5 and 14 the symbol shown between F and F0 in S21 of figure 5 and S71 of figure 14 should be changed to a well-known symbol such as ">,<,etc." or explained in the specification for clarity.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 12 in paragraph [0010], elements 11 and 14b in paragraph [0046]. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "T" in figure 5 S24 and " β " in figure 6. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the

Art Unit: 3683

description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "S21" has been used to designate two steps in figure 5, "F1" has been used to designate both an attracting force in figure 2b and a brake operating power in figure 9, and "F2" has been used to designate both an operating force in figure 2b and a brake operating power in figure 9. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the two pressure chambers of the master cylinder as claimed in line 2 of claim 14, the limitation of the reservoir chamber being larger than the pressure chamber as claimed in line 9 of claim 8, and the limitation of bottoming condition detection based on an increasing gradient of the stroke as claimed in line 5 of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after

Art Unit: 3683

the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

7. The disclosure is objected to because of the following informalities:

- The phrase "a little small" in paragraph [0070] is unclear

Appropriate correction is required.

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Proper antecedent basis should be provided for the following terms: "a leak amount control device" as claimed in line 4 from the bottom of claim 5, "a brake condition selection device" as claimed in line 19 of claim 9, and a "leakage amount control device in line 4 from the bottom of claim 11.

9. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: in paragraph [0060] Applicant states "in the brake system in which the fluid leakage is not occurring, when the bottoming condition occurs". However, in paragraph [0054] it is stated that the "fluid leakage causes the bottoming condition; therefore if the bottoming condition is detected, the fluid leakage can be detected. Based on the statement in paragraph [0054], it is unclear to the

Art Unit: 3683

Examiner how a bottoming condition can exist with no fluid leakage occurring as set forth in paragraph [0060]. Also, in paragraph [0044] it is unclear to the Examiner whether Applicant intended for the small amount leakage failure to be detected if PM0 is both high and lower than Pth1. Clarification is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1, 3-12, 14, and 16-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are replete with 112 issues including but not limited to:

Re: claim 1. The phrase "fluid pressure source, comprising" in line 3 is indefinite. Examiner recommends using language similar to that used in line 3 of claim 22.

Re: claim 3. The phrase "the opening amount" in line 9 lacks proper antecedent basis.

Re: claim 5. The phrases "a master cylinder pressure detector" and "a master pressure" in lines 4 and 5 are indefinite. It is unclear whether they are intended to be the same or different from the detector and pressure of the master cylinder claimed in claim 3.

Re: claim 8. The phrase "a second compressing device which compresses the operating fluid stored in an atmospheric condition in a reservoir chamber" in lines 7-9 is

Art Unit: 3683

indefinite since the specification describes the second compressing device as including line 140 which uses the master reservoir 136 as a source of stored operating fluid.

Therefore, it is unclear to the Examiner whether Applicant intended for the reservoir chamber to be that of the master reservoir or to be element 114 which is designated as a reservoir chamber.

Re: claims 8 and 16. The phrase "fluid pressure source, comprising" in line 3 is indefinite. Examiner recommends using language similar to that used in line 3 of claim 22.

Re: claim 22. The phrase "a fluid pressed based an operation" in line 2 is unclear. The phrase "the operation" in line 2 from the bottom lacks proper antecedent basis.

Re: claim 23. The phrases "the second predetermined pressure" and "the first predetermined pressure" in lines 5 and 6, respectively, lack proper antecedent basis. The phrase "a second predetermined amount" in line 4 is indefinite since no first predetermined amount was recited. The phrase "the pressure" in line 5 from the bottom is indefinite. It is unclear whether Applicant intends to claim the first predetermined, second predetermined, or fluid pressure.

Re: claims 22 and 30. The phrase "the operation state of the brake" as claimed, for example, in line 6 of claim 30 is indefinite. It is unclear if Applicant intends to refer to the operation state of the brake or the brake operating member.

Re: claim 12. The phrases "a master cylinder pressure detector" and "a pressure chamber" in line 11 from the bottom is indefinite. It is unclear to the Examiner whether

Art Unit: 3683

the claimed elements are intended to be the same or different from those set forth in claim 9.

Re: claim 14. The phrase "a corresponding pressure chamber" in the last line is indefinite. It is unclear whether the pressure chamber is intended to be the same or different from one of the two earlier claimed pressure chambers.

The remaining claims are indefinite due to their dependency from one of claims 1, 9, 16, and 22.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 9, 14, 22, 29, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-11227601 (using US Patent 6276763 to Isono et al. as an English equivalent) (referred to as Isono et al. '763 throughout the Action).

Re: claims 9 and 29. Isono et al. show in figures 1 and 4 a brake device having a fluid pressure source 14 which generates a fluid pressure based on operation of a brake operating member 10, the brake device actuated by the fluid pressure generated by the

Art Unit: 3683

fluid pressure source, comprising: a brake operating amount detector 50, a fluid source pressure detector 202, a failure detector or subroutine shown in figure 5 which detects and distinguishes between different types of failures of the brake device (booster abnormal condition and booster not abnormal condition) based on the pressure detected by the fluid source pressure detector and the operating amount detected by the brake operating amount detector, and a brake fluid control device 200 which controls the brake fluid pressure in different ways based on the type of the failure detected by the failure detector, wherein the fluid pressure source includes a master cylinder 14 which has a pressure chamber shown in the area of the lead line of 14 and generates fluid pressure corresponding to an input power, a first compressing device 64,66,70 which compresses an operating fluid of the pressure chamber of the master cylinder and supplies a compressed operating fluid to a brake 58, a second compressing device 74,122,129 which compresses the operating fluid stored in an atmospheric condition in a reservoir chamber 114, the reservoir chamber is larger (in height) than the pressure chamber of the master cylinder as shown in figure 1, and the brake fluid control device includes a brake condition selection device which selects either of a first condition in which the brake is compressed by the first compressing device, or a second condition in which the brake is compressed by the second compressing device based on the type of the failure detected by the failure detector as disclosed in figure 5 step S3,S8,S9.

Examiner notes that claim 9 is structured in the form of a product-by-process

Art Unit: 3683

claim. Examiner further notes that section 2113 of the MPEP states that the determination of patentability in a product by process claim is based on the product itself. It is also noted that Examiner has interpreted normal condition as a failure type to the same extent as Applicant's case (i) of claim 1 in which PMO is greater than P_{th1} resulting in a normal condition as shown in figure 5 of the instant application.

Re: claim 14. Isono et al. '763 shows the limitation of the master cylinder having two pressure chambers to the same extent as Applicant and generates the fluid pressure corresponding to the input power, the brake device includes a front side brake 58 connected to one of the two pressure chambers and a rear brake disclosed in col. 13 lines 33-48 connected to the other of the two pressure chambers, and the fluid source pressure detector including a front wheel side pressure detector 202 which detects the fluid pressure of the pressure chamber which is connected to the front side brake or a portion connected to a corresponding pressure chamber of the master cylinder.

Re: claims 22 and 30. Isono et al. '763 show in figures 1 and 4 a brake device having a fluid pressure source device 14 which generates a fluid pressure based on an operation state of a brake operating member 10, the brake device comprising: a fluid source pressure detector 202, and a failure determining device 200 and the subroutines in figure 5 which determined that there is a first failure (booster abnormal condition) when a combination of the operation state of the brake and the fluid pressure is a first combination state ("yes" after step S5), and determines that there is a second failure (booster not abnormal condition) being different from the first failure if the combination

Art Unit: 3683

of the operation of the brake and the fluid pressure is a second combination state ("no" after step S5) being different from the first combination state.

14. Claims 9, 14, 22, 29, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6289271 to Isono et al.

Re: claims 9 and 29. Isono et al. show in figures 1 and 6 a brake device having a fluid pressure source 14 which generates a fluid pressure based on operation of a brake operating member 10, the brake device actuated by the fluid pressure generated by the fluid pressure source, comprising: a brake operating amount detector 50, a fluid source pressure detector 202, a failure detector subroutine shown in figures 7-10 which detects and distinguishes between different types of failures (booster abnormal condition and booster not abnormal condition) of the brake device based on the pressure detected by the fluid source pressure detector and the operating amount detected by the brake operating amount detector as shown in figure 7, and a brake fluid control device 200 which controls the brake fluid pressure in different ways based on the type of the failure detected by the failure detector, wherein the fluid pressure source includes a master cylinder 14 which has a pressure chamber shown in the area of the lead line of 14 and generates fluid pressure corresponding to an input power, a first compressing device 64,66,94 which compresses an operating fluid of the pressure chamber of the master cylinder and supplies a compressed operating fluid to a brake 58, a second compressing device 74,122,129 which compresses the operating fluid stored in an atmospheric condition in a reservoir chamber 114, the reservoir chamber is larger than the pressure chamber of the master cylinder as shown in figure 1, and the brake fluid

Art Unit: 3683

control device includes a brake condition selection device which selects either of a first condition in which the brake is compressed by the first compressing device, or a second condition in which the brake is compressed by the second compressing device based on the type of the failure detected by the failure detector as disclosed in figure 7 step S16 as opposed to the fluid control disclosed in col. 20 line 64 – col. 21 line 1.

Examiner notes that claim 9 is structured in the form of a product-by-process claim. Examiner further notes that section 2113 of the MPEP states that the determination of patentability in a product by process claim is based on the product itself.

Re: claim 14. Isono et al. '271 shows the limitation of the master cylinder having two pressure chambers shown on either side of the perforated line drawn inside element 14 and generates the fluid pressure corresponding to the input power, the brake device includes a front side brake 58 connected to one of the two pressure chambers and a rear brake disclosed in col. 13 lines 33-48 connected to the other of the two pressure chambers, and the fluid source pressure detector including a front wheel side pressure detector 202 which detects the fluid pressure of the pressure chamber which is connected to the front side brake or a portion connected to a corresponding pressure chamber of the master cylinder.

Re: claims 22 and 30. Isono et al. '271 show in figures 1 and 6 a brake device having a fluid pressure source device 14 which generates a fluid pressure based on an operation state of a brake operating member 10, the brake device comprising: a fluid source pressure detector 202, and a failure determining device 200 and the subroutines

Art Unit: 3683

in figures 7-10 which determined that there is a first failure (booster abnormal condition) when a combination of the operation state of the brake and the fluid pressure is a first combination state ("yes" after step S15), and determines that there is a second failure (booster not abnormal condition) being different from the first failure if the combination of the operation of the brake and the fluid pressure is a second combination state ("no" after step S15) being different from the first combination state.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 10, 11 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isono et al. '763 in view of US Patent 4867509 to Maehara et al.

Re: claims 10 and 11. Isono et al. '763 describe the invention substantially as set forth above, but do not include the limitation of the failure detector including a bottoming detector.

Maehara et al. teach in col. 5 lines 28-32 the use of a brake device including a bottoming detector 55. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake device of Isono et al. '763 to have included a bottoming detector, as taught by Maehara et al., in order to provide a means of detecting a bottoming condition to indicate excessive stroke movement of the brake operating member.

Art Unit: 3683

Re: claims 16, 17, 19, and 20. Isono et al. '763 disclose a brake device having a fluid pressure source 14 which generates a fluid pressure based on operation of a brake operating member 10, the brake device actuated by the fluid pressure generated by the fluid pressure source, comprising: a brake operating amount detector 50 which detects an operating amount of the brake operating member, a fluid source pressure detector 202, a failure detector or subroutine in figure 5 which detects and distinguishes between different types of failures of the brake device (booster abnormal condition or booster normal condition) based on the pressure detected by the fluid source pressure detector and the operating amount detected by the brake operating amount detector, the fluid pressure source device including a master cylinder 14 which generates the fluid pressure corresponding to an input power, but does not disclose the failure detector including a bottoming detector which detects a bottoming condition in the master cylinder based on whether an increasing gradient of the brake operating amount detected by the brake operating amount detector is larger than a predetermined gradient.

Maehara et al. teach in col. 5 lines 28-32 the use of a brake device including a bottoming detector 55 which detects a bottoming condition in the master cylinder based on whether an increasing gradient of the brake operating amount detected by the brake operating amount detector is larger than a predetermined gradient. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the failure detector of Isono et al. '763 to have included a bottoming detector,

as taught by Maehara et al., in order to provide a means of detecting a bottoming condition to indicate excessive stroke movement of the brake operating member.

Re: claim 18. Isono et al. '763 show the limitation of the master cylinder having two pressure chambers to the same extent as Applicant and generates the fluid pressure corresponding to the input power, the brake device includes a front side brake 58 connected to one of the two pressure chambers and a rear brake disclosed in col. 13 lines 33-48 connected to the other of the two pressure chambers, and the fluid source pressure detector including a front wheel side pressure detector 202 which detects the fluid pressure of the pressure chamber which is connected to the front side brake or a portion connected to a corresponding pressure chamber of the master cylinder.

Re: claim 21. The brake fluid control device or step S16 of figure 7 of Isono et al. '763 controls the brake fluid pressure in different ways based on the type the failure detected by the failure detector, the introduction of pump-operated fluid control under an abnormal booster condition.

Allowable Subject Matter

17. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. With regard to claim 1 US Patent 6289271 to Isono et al. teaches in col. 24 lines 36-40 the detecting and distinguishing of the types of failures between a case (i) in which $PMC2$ is less than P_{th1} to result in booster abnormality, a case (ii) in which $PMC2$ is greater than P_{th1} which results in a not abnormal condition of the booster and, a case (iii) in which PMC is

Art Unit: 3683

greater than Pth4 which results in a not abnormal condition of the booster, but teaches away from the limitation of the first predetermined pressure Pth1 being larger than the second predetermined pressure Pth2, 3 as shown figure 19 where Pth1 is less than Pth2 and does not clearly teach the limitation of the first predetermined pressure Pth1 being larger than the second predetermined pressure Pth4. Since Isono et al. '271 is a commonly owned 102(e) prior art reference, it cannot be used in a 103(a) rejection.

18. Claims 3-6, 12, and 23-28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 6276761 teaches in col. 5 lines 54-56 the use of controlling fluid in a braking system according to failure type.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Art Unit: 3683

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 4/17/03
mmb
April 17, 2003


JACK LAVINDER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600